

The Education University of Hong Kong

2022-2023 Quality Education Fund Thematic Network - Tertiary Institutes

STEM Project Team

SCHOOL: LCPS 荔枝角天主教小學

TOPIC: Water Temperature Sensor

Objectives

- To alert the person/elderly when the temperature of the water is too hot.

Micro:bit Code

```
forever loop containing:
  show number temperature (°C)
```

```
every 60000 ms loop:
  if temperature (°C) > 60 then
    show icon [grid icon]
    play melody [melody] at tempo 120 (bpm)
  else
    show icon [grid icon]
```

Objectives

- To alert the person/elderly when the temperature (in the kitchen/near the stove) is too hot.

Micro:bit Code

```
on start
  set s to 3000000
  call countdown
  call up

function up
  pause (ms) 1000
  change s by 2
  show number s

function countdown
  while temperature (°C) > 60
  do
    pause (ms) 1000
    change s by -1
  if temperature (°C) < 60 then
    set s to 3000000
    call countdown

forever
  if s = 0 then
    play melody [C4, D4, E4, F4, G4, A4, B4, C5] at tempo 120 (bpm)
    show icon [grid]

on button A pressed
  stop all sounds
  set s to 1000000
  pause (ms) 1000
  call up
```

Micro:bit Code

Code by the
teacher of
LCPS

```
every 60000 ms
  if temperature (°C) ≥ 40 then
    if minute > 10 then
      start melody power up repeating once
      show string "!"
    else
      change minute by 1
    else
      set minute to 0
      clear screen
  on button A pressed
    change minute by -5
  on button B pressed
    set minute to 11
```